



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
16 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0016

Janet T. Mills
GOVERNOR

Bruce A. Van Note
COMMISSIONER

October 26, 2023
Subject: Maintenance Garage
State WIN: 027323.00F
Location: Fort Fairfield
Amendment No. 3

Dear Sir/Ms.:

ADD the following attached Specifications:

- **SPECIAL PROVISION SECTION 082200 – FIBERGLASS REINFORCED PLASTIC (FRP) DOORS & FRAMES**

The following questions have been received:

Question: In looking at the door schedule and spec book there are some conflicts. On the schedule I see that under door and frame for Material is shows FG. I do not see this listed in the abbreviations but am guessing it implies Fiberglass. While in the spec book it states Hollow Metal doors and Frames. Can you please clarify this for me to be able to provide an accurate quote. There also is no wall section detail to confirm which they actually would want.

Response: Refer to and add the following attached specification to the Bid Book: **SPECIAL PROVISION SECTION 082200 – FIBERGLASS REINFORCED PLASTIC (FRP) DOORS AND FRAMES.**

Question: Could you provide description of what the stem wall covering is to be constructed of? We could not find a detail in the drawings.

Response: : In of the Bid Book refer to pages 144-146 DIVISION 06 – WOOD, PLASTICS, AND COMPOSITES SECTION 066400 PLASTIC PANELING

Question: Are the three passage doors to be steel or fiberglass? We assume FG in the door schedule is fiberglass but there is no spec related to fiberglass doors.

Response: Refer to and add the following attached specification to the Bid Book: **SPECIAL PROVISION SECTION 082200 – FIBERGLASS REINFORCED PLASTIC (FRP) DOORS AND FRAMES.**

Question: Is the wall insulation to be fiberglass batt or rockwool batt? The specification from addendum 2 has both.

Response: Either product is acceptable provided it meets the minimum requirements as stated in the specifications in the Bid Book. The awarded contractor will be required to submit the material specifications for acceptance once the contract has been executed.

Question: The roof panels specification states Everlast as the manufacturer with a 16" wide panel and a 1-1/2" seam height. Their Everseam panel is 20" wide with a 1-1/2 seam height. Is this acceptable?

Response: Either width of the panel is acceptable provided the specifications meets or exceeds the minimum requirements stated in the Bid Book under the SPECIAL PROVISION SECTION 07611 – METAL ROOFING.

Question: Everlast does not provide a final inspection by a representative of their company. Can this be removed from the requirements?

Response: The Department requires that the roofing system meets the manufacturer's recommendations for installation and water tightness. The Contractor is to provide written certification from the manufacturer that the metal roof system has been installed in accordance with the manufacturer's recommendations and water tightness.

Consider these changes and information prior to submitting your bid on **November 1, 2023**.

Sincerely,



George M. A. Macdougall P.E.
Contracts & Specifications Engineer

SPECIAL PROVISION

SECTION 082200 – FIBERGLASS REINFORCED PLASTIC (FRP) DOORS AND FRAMES

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes:

1. Interior FRP doors and frames.
2. Exterior FRP doors and frames.

B. Related Requirements:

1. Section 087100 "Door Hardware" for door hardware for FRP doors.

1.2 COORDINATION

- A. Coordinate anchorage installation for FRP frames. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors. Deliver such items to Project site in time for installation.
- B. Coordinate requirements for installation of door hardware, electrified door hardware, and access control and security systems.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include construction details, material descriptions, core descriptions, and finishes.

B. Shop Drawings: Include the following:

1. Elevations of each door type.
2. Details of doors, including vertical- and horizontal-edge details and metal thicknesses.
3. Frame details for each frame type, including dimensioned profiles and metal thicknesses.
4. Locations of reinforcement and preparations for hardware.
5. Details of each different wall opening condition.
6. Details of electrical raceway and preparation for electrified hardware, access control systems, and security systems.
7. Details of anchorages, joints, field splices, and connections.
8. Details of accessories.
9. Details of moldings, removable stops, and glazing.

C. Samples for Initial Selection: For FRP doors and frames with factory-applied color finishes.

- D. Product Schedule: For FRP doors and frames, prepared by or under the supervision of supplier, using same reference numbers for details and openings as those on Drawings. Coordinate with final door hardware schedule.

1.4 CLOSEOUT SUBMITTALS

- A. Record Documents: For fire-rated doors, list of door numbers and applicable room name and number to which door accesses.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver doors and frames in individual cartons with the identifying mark number listed on each carton.

1.6 WARRANTY

- A. Manufacturer agrees to warranty fiberglass doors and frames for life of the initial installation against failure due to corrosion. Additionally, warranty fiberglass doors and frames for a period of 10 years against failure due to materials and workmanship from date of substantial completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 1. CORRIM Company.
 2. Edgewater Door
 3. Special-Lite.

2.2 PERFORMANCE REQUIREMENTS

- A. Flame Spread: All rated FRP component parts, including the finish, shall have a flame spread classification of 25 or less per ASTM E84 and shall be self extinguishing per ASTM D635, unless operating conditions dictate otherwise.
- B. Door U-Value: U-.083 (R-12)

2.3 INTERIOR AND EXTERIOR DOORS AND FRAMES

- A. FRP Doors:

1. Doors:

- a. Total door thickness to be a nominal 1-3/4 inches thick.
- b. Lock stiles on non-rated and rated active leaves shall be factory beveled 1/8" in 2".
- c. Provide doors with completely seamless construction on all six (6) surfaces.
- d. Face Sheets: FRP face sheets shall be manufactured using a corrosion resistant resin system with light stabilizing additives. The resin shall be reinforced with fiberglass, 50% average by weight for enhanced strength. Face sheets shall be a minimum of 0.125 inch thick fiberglass.

1) Finish: Smooth.

- e. Stiles and Rails: Stiles and rails shall be 1-1/2 inch square pultruded fiberglass tubes. Pultrusion is a fiberglass fabrication process that results in a much stronger, more durable product. Non-rated and 20 minute doors will have a full width horizontal 1-1/2 inch square pultruded fiberglass tube every 24 inches in height for internal reinforcement. A 1-1/2 inch square solid fiberglass block shall be used at all hardware reinforcements and corner intersections. A minimum of 1,000 pounds screw withdrawal force shall be required per screw. The bottom rail shall allow for 1-1/4 inches of height alterability without loss of the panel's integrity. Absolutely no metal or wood reinforcements, including #2 SPF (Spruce Pine Fir), will be allowed in any part of the stile and rail configuration.
- f. Core: Polyurethane Foam Core: A 1-1/2 inch thick rigid block of polyurethane shall be laminated to the interior of the panels. The "R" factor shall be 12 (U-.083). The polyurethane insulation shall be Class A and CFC free. Foam properties comply with ASTM E-84 and The International Building Code (IBC).
- g. Hardware preparations: Hardware Preparations: Doors shall be reinforced and mortised for hardware with 1-1/2 inches x 1-1/2 inches of solid fiberglass to allow application of hinges and locks, in accordance with the hardware schedule, hardware manufacturer's instructions and templates.
 - 1) Reinforcement Blocking: Non-swelling polymer or firestop blocking will be used for all lockset, surface mounted hardware and thru-bolted hardware blocking
 - 2) Pilot holes for full mortise butt hinges will be pre-drilled by factory
 - 3) All hardware shall be attached / installed by using pilot hole and stainless steel wood screws

B. Glazing:

- 1. Glazing support structures shall ensure that the glass area is weather sealed as not to permit moisture from entering the core of the door. This is to be accomplished by utilizing pultruded 1-1/2 inch square FRP tubes to fabricate the window opening. Glazing must allow for ready access for repair in the event of damage or replacement, without affecting the sealed integrity of the cutout in the door panel itself. Openings cut directly into the core material will not be allowed.

C. FRP Frames:

1. FRP frames shall be rigid, neat in appearance, free from defects and the finish shall match the doors. Fabricate FRP doors and frames as shown on the drawings and in accordance with best shop practices. Field measurements shall be taken as required for coordinating with adjoining work
2. All frames shall be 100% pultruded fiberglass with an average 50% glass content by weight which results in an industrial fiberglass frame as strong as a 14 gauge hollow metal frame
3. Head and jamb members shall be standard 45 degree miter, providing a neatly mitered corner connection, fabricated for Knocked Down (KD) field assembly
4. Reinforcement and Braces / Supports: Frames shall be reinforced and mortised for hardware in accordance with the hardware schedule, manufacturer's instructions and templates. Absolutely no metal reinforcements will be allowed in any part of the FRP frame configuration.
5. Corner Reinforcement: 4 inches x 4 inches x 5-3/8 inches x 1/4 inch thick pultruded fiberglass angle. Attached to head bar at factory using stainless steel screws
6. Mortise Hinge Reinforcement: 3 inches x 7 inches x 9/16 inch (or 3/8 inch) thick FRP material attached to frame by means of bonding and stainless steel countersunk screws
7. Closer Reinforcement: 1-1/2 inches x 19 inches x 3/16 inch thick FRP material attached to frame by means of bonding
8. Strike Reinforcement: 1-1/2 inches x 9 inches x 3/4 inch thick FRP material attached to frame by means of bonding and stainless steel countersunk screws
9. Anchoring System: - Furnish at least three (3) anchors in each jamb of frames up to 90 inches high and one (1) additional anchor for each 30 inches in height above 90 inches, in shapes, sizes and spacing shown or required for anchorage into adjoining wall construction.

- 1) New Stud (before sheathing): New Stud Anchor

D. Finish

1. Polyurethane finish, high solids polyurethane topcoat that exhibits excellent chemical resistance, outstanding toughness, flexibility, abrasion resistance and excellent outside durability
 - a. Flat; smooth face sheet options
 - b. Finish on door and frame units will match.
2. Color: To be selected from manufacturer's full color range of standard and optional colors.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Installer shall examine the substrate and conditions under which fiberglass reinforced plastic work is to be installed and notify the General Contractor in writing of any conditions

detrimental to the proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions have been corrected in a manner acceptable to the installer.

3.2 INSTALLATION

- A. Install hollow-metal doors and frames plumb, rigid, properly aligned, and securely fastened in place. Comply with approved Shop Drawings and with manufacturer's written instructions.
- B. Install FRP doors, frames and accessories in accordance with manufacturers printed instructions, final shop drawings, NFPA 80 standards at fire rated openings and / or HVHZ standards for FBC labeled openings.
- C. Provide clearance for doors of 1/8 inch at jambs and heads; 1/4 inch clearance above threshold.
- D. Hollow-Metal Doors: Fit and adjust hollow-metal doors accurately in frames, within clearances specified below.

3.3 ADJUSTING

- A. At substantial completion, adjust all operable components to ensure proper installation. Doors shall function smoothly and swing freely without binding. Doors shall remain open at any angle without being affected by gravitational influence.

3.4 CLEANING

- A. Remove dirt and excess sealant from exposed surfaces. Follow the manufacturer's recommended cleaning techniques and procedures for cleaning all surfaces. Only use cleaning products that will not scratch or damage the surfaces and are recommended by the manufacturer.

END OF SECTION 082200